

The Closing Arc

Movement geometry for surviving a close-range firearm threat when retreat is not an option — and the drill that builds it into reflex.

INSTRUCTOR-LED TRAINING MODULE

READ THIS FIRST — THE DECISION LADDER

This technique is the bottom rung of the ladder. In every armed encounter your options rank in this order: **1) Escape. 2) Cover. 3) Comply** (if it's property they want, give it up — nothing you own is worth your life). **4) Fight.**

The Closing Arc applies only when all three better options are gone: the threat is inside roughly 5–7 meters, retreat exposes your back with no cover, and violence is imminent. It does not make you bulletproof. It shifts the odds — from likely hits to likely misses. That shift is worth training, and it is all this is.

THE CORE IDEA

Speed Doesn't Beat a Gun. Angle Does.

A shooter doesn't have to be fast to hit a target running straight at them — the target never leaves their sights. It just gets bigger. A straight charge is, geometrically, a *stationary* target. It is the easiest shot in all of shooting.

What actually breaks a shooter is **angular velocity** — how fast you move *across* their line of sight. Force the muzzle to swing to follow you, and you attack three human limits at once: the eye's tracking speed, the arm's swing speed, and the brain's ability to predict where you'll be when the round arrives.

The one-sentence version: Move off the line first, then close on a tightening curve — the closer you get, the harder you become to hit. The geometry works *for* you at exactly the moment you need it

most

Three Paths, Three Outcomes

Even trained shooters hit reactive, moving humans at close range far less often than range scores suggest — documented gunfight hit rates inside seven yards historically fall somewhere around one round in three, often worse. Deliberate high-angle movement pushes those numbers further down. Your job is to be the hardest version of that problem:

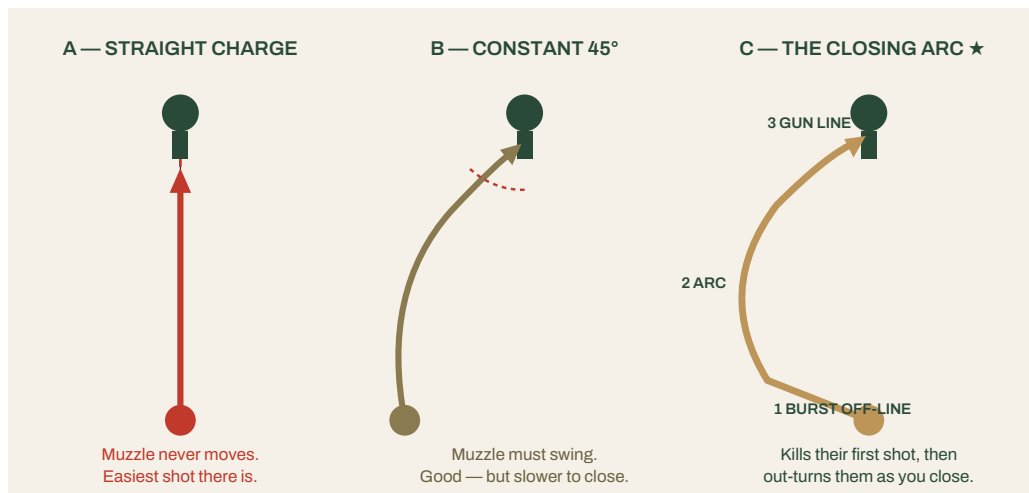


FIGURE 1. Dark circle = shooter. Path A gives the shooter a zero-deflection target. Path C forces the fastest possible muzzle swing at the moment of contact.

Why the arc gets stronger as you close

The swing rate a shooter needs to track you equals your sideways speed divided by your distance. Halve the distance, and the required swing rate **doubles** — at the same running speed. That's the whole trick:

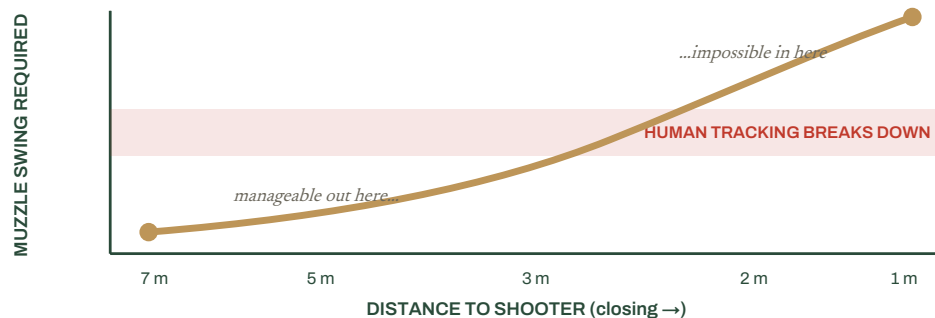


FIGURE 2. At a full sprint on a 45° bearing, the required tracking rate roughly doubles from 5 m to 2 m — crossing well past the point where smooth eye-and-muzzle tracking fails under stress.

Three Phases, One Cut, Total Commitment

1 BURST OFF-LINE (first 1–2 steps)

Explode **hard lateral** — steeper than 45°, closer to 60–90° off their sight line. This is not about closing yet; it's about destroying the sight picture they already have. A human under stress needs roughly a quarter to a half second to see your movement and start correcting. Your first violent step spends their reaction time for them. **Statistically, this step buys you their first round.** Drop your level as you launch — shooters correct up-and-down far worse than side-to-side.

2 TIGHTEN THE ARC (the middle meters)

Convert the lateral burst into a curving sprint **toward** the shooter, bearing about 45° and tightening as you close. You are now the worst target geometry allows: fast, curving, dropping, and accelerating their required swing rate with every stride. Where possible, arc toward their **support side** (a right-handed shooter's left) — swinging the gun across their own body is slower and shorter-ranged than swinging away from it.

3 ATTACK THE GUN LINE (final lunge)

Inside about two meters their tracking problem is already unsolvable — now closure is everything. Abandon the angle and drive straight through: redirect the muzzle off your body, control the weapon, and finish with your hand-to-hand curriculum. The arc's job was to deliver you here unhit; from this point it's a weapon-control fight you already know.

ONE CUT, MAXIMUM. Zigzagging feels evasive but every hard direction change costs you 0.2–0.4 seconds of deceleration — a free gift of exposure time. One unpredictable cut at the start, then commit to the curve at absolute maximum speed.

A hesitant arc is the worst of both worlds: all the exposure time, none of the closure. If you go, you go at 100%.

RANGE CUTOFF

Beyond roughly **5–7 meters** the math flips: exposure time grows faster than the tracking problem, and cover or explosive lateral escape beats any charge. The Closing Arc is a **close-range** answer only.

What Each Path Costs — and Pays

APPROACH	EXPOSURE TIME	SHOOTER'S PROBLEM	EXPECTED OUTCOME (FROM ~5 M)
Straight charge	Shortest (~0.8 s)	None — zero deflection, target grows	2–3 rounds fired at very high hit odds → expect ~2 center-mass hits
Constant 45° arc	~40% longer (~1.2 s)	Continuous muzzle swing, accelerating	3–4 rounds fired at sharply reduced odds → expect ~1 hit, biased peripheral
The Closing Arc	~1.1–1.2 s	Sight picture destroyed, then an accelerating cross-body swing	Expect 0–1 hits, biased peripheral — first round typically defeated by the burst alone

Modeled estimates: semi-auto handgun at ~3–4 rounds/second under stress, committed 6 m/s sprint, alerted but reacting shooter. Figures shift with skill on both sides — the point is the ranking, which is robust, not the decimals.

BUILDING THE REFLEX

The Pressure Arc Drill

Reading about geometry saves no one. Under a real adrenaline dump you will do exactly what your body has repeated — nothing more. This drill uses a CO₂ pepperball launcher firing **inert (empty plastic) rounds only** to give honest, immediate feedback: every hit stings, every rep is scored, and the arc becomes reflex instead of theory.

The drill runs in three stages — **crawl, walk, run** — and no student advances a stage until they hit the standard for the one before it. The safety protocol on the next page governs every rep of every stage, without exception.

Safety Protocol — Non-Negotiable, Every Rep

1 — COLD TRAINING AREA

No live firearms, live pepperball rounds, knives, or ammunition anywhere in the training space. Every launcher is inspected and its hopper verified inert by the instructor **and** a second person before each session. Everyone entering the area is checked. No exceptions, including the instructor.

2 — FACE & BODY PROTECTION

Goggles alone are not enough at these distances — an inert round to the teeth, ear, or throat at 3 meters is a real injury. Minimum standard: **full-face paintball mask (ASTM-rated) with ear coverage**, plus throat protection and groin protection. Mouthguard for the charging student. No exposed skin above the collarbone.

3 — ROLES & CONTROL

One designated Safety Officer who is neither shooting nor charging, holding an absolute stop command — **"CEASE"** — that ends the rep instantly, from anyone, for any reason. Shooter keeps the launcher pointed downrange until "GO." The student finishes every rep on a padded target or hand-shield — never on the role-player's body at full speed.

4 — VELOCITY & STANDOFF

Verify launcher velocity and keep it at the low end of the manufacturer's range. Minimum 2 m standoff for the shooter's first round — no muzzle-contact shots, ever.

Crawl. Walk. Run.

STAGE 1 — CRAWL Pattern Without Pressure (no launcher)

Cones mark the arc from 5 m: lateral burst gate at 60–90°, arc waypoints, gun-line entry cone at 2 m, padded finish target. Student walks it, then jogs it, then sprints it. Coach the level change at the burst and the single cut.

STANDARD: 10 consecutive reps at full sprint hitting all gates, one cut only, no deceleration before the pad.

STAGE 2 — WALK Tracking Shooter, Known Start

Role-player (instructor first) holds the launcher at low ready. On "GO," student runs the arc; shooter tracks and fires. Start at 5 m. Score every rep: **rounds fired, hits taken, hit location (center mass vs. peripheral), time to pad.**

Run the control condition too — have students charge straight once, early on. The hit-count difference teaches the lesson better than any lecture.

STANDARD: 5 consecutive reps averaging ≤1 hit, zero center-mass, under 1.5 s to contact.

STAGE 3 — RUN Unknown Timing, Full Integration

Shooter initiates verbally at a random moment — student mid-conversation, hands in a natural position. Student must read the cue, explode off-line, run the arc, and finish with muzzle redirect + weapon control on the padded target using the standard curriculum.

Vary shooter handedness so students learn to read and arc to the support side. Advanced: start students at varied distances from 3–7 m so they learn the range cutoff by feel.

STANDARD: ≤1 peripheral hit average across 10 randomized reps, correct side selection ≥80%, clean weapon redirect every rep.

Log everything. Hits-per-rep is the metric that matters. Students should watch their own number fall week over week — that falling number is the muscle memory forming, and it's also the honest reminder that the number never reaches a guaranteed zero.

Confidence, calibrated by evidence. That's the goal.

STAY STRONG. STAY CAPABLE. STAY SECURE.

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